



Virginia **Sustainable
Building** Network

VSBN 2011 Annual

Green Innovation Awards

Best Green Business

Sustainable Design Consulting, LLC



- Founded in 2002 by Sandra Leibowitz
- Services include: consulting, training and professional education.
- Provides organizations in the public and private sector with innovative solutions to foster a sustainable future.
- Have provided LEED and related consulting services for over 300 commercial, institutional, multi-family residential and neighborhood-scale projects, of which 58 have achieved LEED certification, ranging from the Certified to Platinum levels.

New mission statement:

We are a team of experienced practitioners offering a broad perspective and services to support the development of a more sustainable built environment. As an early leader in the industry, we provide our clients with insight into trends, practical applications and advanced performance metrics.



Sustainable Design Consulting, LLC

- Project experience:
 - Ft. Belvoir Fairfax Village Neighborhood Center, Ft. Belvoir, Virginia, LEED-NC Platinum
 - One and Two Potomac Yard, Arlington, Virginia, LEED-NC Gold (previous slide)
 - Pentagon Library and Conference Center, Arlington, VA, LEED-NC Silver (at right)
 - VCU Walter L. Rice Center Education Building, Richmond, VA, LEED-NC Platinum (bottom right)
 - Washington-Lee High School, Arlington, VA, LEED-NC Gold (below)



Best Green Organization Community Housing Partners

Non-profit community development corporation with 36-year commitment to contribute to environmental, economic and social sustainability of communities in four states.



Services: Development, architecture, construction, real estate, energy services and training, and property management.



Community Housing Partners

- Build and rehab multifamily and single family homes to ENERGY STAR and EarthCraft Virginia standards.
- Educate tenants and homeowners
- Train EE practitioners at NRCERT



- CREATES started in 2010 to train unemployed in SW
- Energy Alliance of SW VA just formed to promote EE education and retrofits

Best Green Designer

George C. Nasis, AIA, LEED AP

Vice President, and Principle-in-Charge of
Higher Education Studio, Moseley Architects



- Leader in high performance design for over a decade.
- Responsible for the design and construction of 1 million square feet of LEED certified buildings in the Commonwealth, with another 891,514 square feet of LEED registered buildings on the way.
- Instrumental in convincing his clients that high performance buildings are the way to go.
- Strives to design and construct the highest performing buildings possible, and works to ensure affordability of implemented design strategies.
- Transforming the higher education experience in the Commonwealth, and hopes that clients will adopt green approaches in their professional careers and private lives.

George C. Nasis, AIA, LEED AP



William and Mary School of Business
(above)
James Madison CISAT Dining Hall (below)



Longwood U Student Health and Fitness (above)
VA Tech Henderson Hall and Theatre (below)



Woodhill Residence, Artisan Construction

Located in Bundoran Farms,
North Garden, VA

Certifications

- Earthcraft Certified- Gold Level



- EPA Indoor Air Plus Certified

- LEED Registered- Expect Gold Certification

Best Green Residential Project-New Construction

Woodhill Residence, Artisan Construction

Key Green Features

Site

- minimize impact and maximize farm-use community
- No invasive species or conventional turf
- 100% of site has permeable surface
- Geothermal HVAC system with vertical well to limit disturbance

Efficiency Features

- Low-flow plumbing fixtures and low-wattage light bulbs throughout house
- HERS Index of 58
- Efficient framing practices such as open-web floor trusses, 24" stud spacing and SIP roofing
- R-20 open-cell foam in walls; R-38 continuous open- cell insulation in roof; R-19 continuous poured foundation
- 93.4% of construction waste diverted from landfill



Materials

- Oak flooring sourced from the site and milled locally
- Zero VOC and Low VOC paints, adhesives and finishes used throughout

Operations

- Electric car charger-port wired to light post in driveway
- HEPA electronic filter
- ERV installed to bring in conditioned fresh air

Best Green Residential Project - Renovation

Duke Bloemers Residence - The Gaines Group



This late 1800's home renovation project came with the goal of being as energy efficient as possible.

This home was one of the first in Central Virginia to achieve the Home Performance with Energy Star Certification.

Projected Energy Savings: 40%
Air Leakage reduced by 55%
Water usage reduced by 30%

Duke Bloemers Residence

Design Features:

- High Performance insulation and air sealing package.
- 15 SEER 8.5 HSPF Heat Pump
- Water Efficient fixtures
- On Demand Hot Water Heater
- Energy Star Appliance
- Cementitious Siding
- High Performance Windows
- Reclaimed structure (renovation of existing home)
- No VOC Paint
- Thermal Imaging used to identify insulation gaps



Gained national attention through press conference with Secretary of Agriculture Tom Vilsack, promoting need to retrofit existing homes.

Best Green Institutional Project-Higher Education

Virginia Commonwealth University Cary Street Gym



Renovation and modernization of 1891 building earned this VCU project a LEED Gold rating. Features include:

- The interior of the facility is designed to provide visual connection to multiple recreation activities, promoting health and wellness to the campus community and neighborhood participants
- It is convenient to bus line and bike transportation options.

Virginia Commonwealth University Cary Street Gym



- The facility's mechanical system has been designed for greater efficiency, as well as indoor and outdoor air quality. Energy reduction = 16%
- The wet classrooms, large group exercise rooms, conference room, and break room are equipped with CO2 sensors, which allow for demand-controlled ventilation.
- Refrigerants with lower global warming and zero ozone depletion potentials have been selected for use in all mechanical equipment.
- Additional roof insulation, efficient windows, and a VAV system contribute to the project's energy efficiency.
- Water reduction is 38%; 100% reduction in potable water for irrigation.
- Innovative pool cleansing system.

Best Green Institutional Project - K-12 Center for Energy Efficient Design Franklin County Public Schools



- The Center for Energy Efficient Design (CEED) is a 3500 square foot “zero-energy” educational building built in Rocky Mount, Virginia.
- Opened in November 2010 and houses classes in Environmental Studies, Natural Resources, and Engineering and Architecture.
- The CEED is an educational resource for the region, state, and entire planet.

Center for Energy Efficient Design Franklin County Public Schools

Uses techniques and technologies that include:

- wind turbines and photovoltaic arrays for electricity
- earth berming and solar orientation for heat and light
- rainwater harvesting and geothermal energy to conserve all of its resources

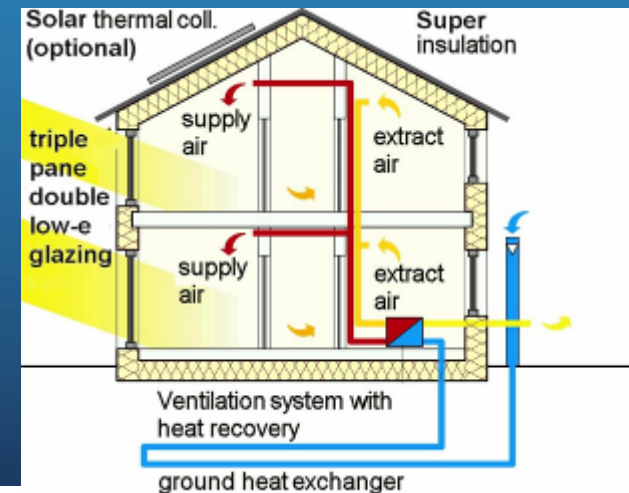


Residential wind turbines

Anchored by PassivHaus design, it produces more electricity than it uses.

Lesson plans will be available for K-12, and educators will be encouraged to use the CEED as a real-time laboratory through its web based data monitoring and sharing software.

PassivHaus Design



Best Green Commercial Project - Large Dam Neck Naval Base



Department of the Navy is projected to save \$32 million from conservation improvements and geothermal water source heat pumps.

Dam Neck Naval Base

Conservation Upgrades include:

- Ground Source Heat Pump Energy Conservation Measures - 10 Buildings
- Building Automation and Controls Energy Conservation Measures - installed in 12 buildings
- Lighting Energy Conservation Measures - improvements installed in 27 buildings
- Water Energy Conservation Measures - improvements installed in 36 buildings
- Heating, Ventilation and Air Conditioning Energy Conservation Measure - Improvements in 14 Buildings
- Hampton Roads Sanitation District Effluent Heat Exchange System installed

Best Green Commercial Project - Office

DPR Construction Inc. Richmond Office

Sustainable Features include:

- Transportation plan in place to reward for carpooling
- Bike racks and public transportation available

- Low flow fixtures were installed in the kitchen and bathrooms

- Energy efficient appliances used throughout the space

- Existing air handlers with economizers to optimize outdoor air flow, controlled with CO2 sensors and 6 different zone dampers

- Enhanced commissioning for lighting and HVAC systems

- Office achieved LEED Silver Certification
- Every DPR office is enrolled in the Department of Energy's Energy Star Program.



DPR Construction Inc. Richmond Office



- Low VOC flooring, adhesives, paint and coatings were used
- 100% of regularly occupied spaces have daylight views
- Use of sun shades
- Daylight sensors are being utilized as well as occupancy sensors LED lighting installed throughout the
- Green cleaning program

- The team used innovative materials such as kieri board, cork, bamboo (all rapidly renewable) and paperstone.
- Recycled products used throughout the space included carpet, all ceiling tile, resilient base, drywall materials and furniture.
- Recycling bins for cardboard, metal, paper, glass and plastic can be found onsite.



Most Sustainable Community Program

Virginia Commonwealth University

The community of Virginia Commonwealth University, Virginia's largest university, is large and diverse. Not including the 600,000 annual patients of VCU's MCV hospital, VCU consists of approximately 32,000 students and 18,000 faculty, staff, and associated vendors. Sustainability at VCU is just as far-reaching and multi-faceted.

- President's Climate Commitment signed by VCU President.
- VCU's Statement of Sustainability begins:

Sustainability is the goal of maintaining a good quality of life for those who presently experience it, while expanding the quality of life to those who lack it; and understanding and respecting the needs of future generations and the limits of natural systems within which quality human lives are necessarily embedded and dependent.



Virginia Commonwealth University



Some Programs include:

- Green Works Team program will initiate environmental leaders in every organizational level and every building of the university. It will serve as the implementing force for many of the university's sustainable initiatives.
- VCU Sustainability collaborates with student organization, Green Unity 4 VCU on many projects.
- The VCU Rice Center, a biological research station outside of Richmond, is Virginia's first LEED Platinum building and currently working to apply for LEED EBOM Platinum-as well. Overall, VCU has 7 LEED certified buildings.

- Promotional events: EarthDay, ArborDay, Recyclemania, America Recycles Day, Campus Sustainability Day, film screenings, Great Bike Roundup (now grown to be Richmond Bike Week), Year-of-the-Environment Kickoff, and more.

- VCU Green Map, an interactive map of all sustainability-related sites on and around campus, including organic/local restaurants, bike shops, LEED buildings, etc.



Special Recognition

Robert Somers, II, PH.D., P.E., LEED AP
President, 2rw Consultants
For Outstanding support of VSBN

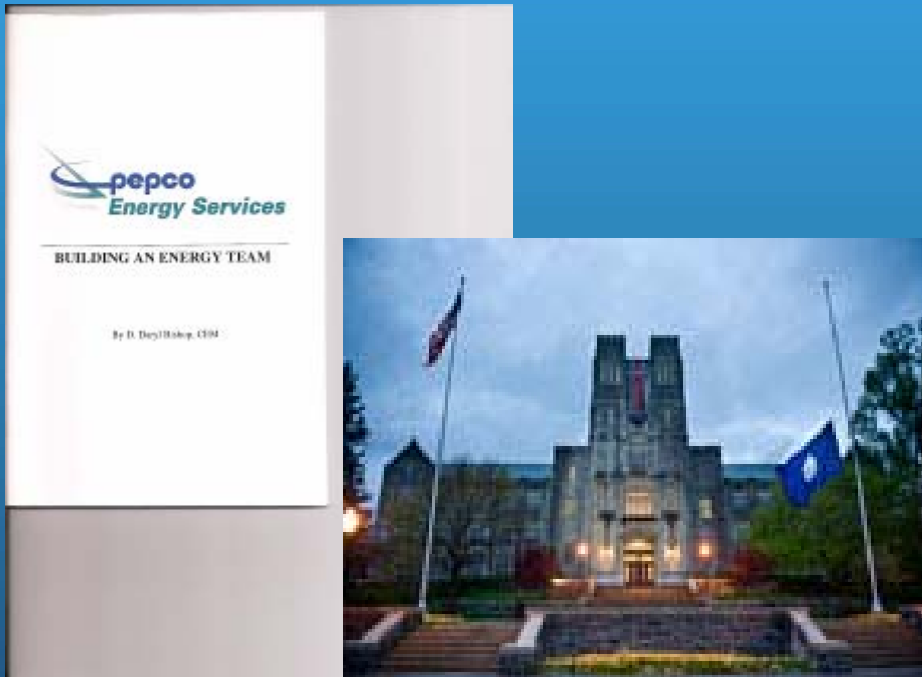


Special recognition

Daryl Bishop, CEM, General Manager

Pepco Energy Services

For outstanding support of VSBN



Special Recognition

Eric Oliver, P.E., LEED AP, President
EMO Energy Solutions, LLC

For Outstanding Support of VSBN



Special Recognition

Colin Arnold, AIA, LEED AP, Principal
Community Design Studio, LLC

For outstanding support of VSBN



Special Recognition

M. Douglas Lowe, LEED AP
Artisan Construction, INC.

For outstanding support of VSBN



why build green?

BUILDINGS DON'T HAVE TO SQUANDER RESOURCES, ENERGY, AND MATERIALS. At Artisan Construction, we build homes that are healthy for the environment and healthy for the occupants. Many people are **talking** about green construction, but we're **doing it everyday** - because we believe it's a better way to build, not just for our clients, but for all future generations. We practice sustainability NOW for our FUTURE tomorrow.



FOR OUR CHILDREN.

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